Swept Lasers for OCT
1060 & 1310 nm High Speed Swept Laser Engines

Axsun Swept Lasers provide an optimal balance of tuning bandwidth, output power, sweep speed, and coherence length to enable cutting-edge performance in next-generation Swept-Source Optical Coherence Tomography (SS-OCT) systems.

A Unique Design based on our micro-optical integration capabilities and patented MEMS tunable filter, the highly scalable Axsun laser platform is the preferred choice for OCT system vendors in multiple markets.

Integrated Solutions Axsun laser modules are paired with driver electronics and optional k-clock, balanced photoreceivers, interferometers, and high speed data acquisition electronics in compact and highly cost-effective OEM configurations or benchtop enclosures.

Reliability & Support Axsun products have logged billions of hours in telecom and imaging systems around the world since 2001. Our products meet rigorous Telcordia qualification standards and are supported by a team with decades of expertise in laser and OCT system technology.

Largest Selection of Laser Specifications Available

<table>
<thead>
<tr>
<th>Center Wavelength</th>
<th>1310 nm</th>
<th>1060 nm</th>
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<tbody>
<tr>
<td>Sweep Rate, kHz</td>
<td>50</td>
<td>100</td>
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<tr>
<td>Tuning Range, nm (-10 dB)</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Coherence Length, mm²</td>
<td>28</td>
<td>20</td>
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<tr>
<td>Average Output Power, mW</td>
<td>20</td>
<td>20</td>
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<tr>
<td>Scan Depth in Air, mm²</td>
<td>5</td>
<td>5</td>
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</tbody>
</table>

Common Applications
- Anterior Segment Ophthalmic Imaging, Endoscopy, Dermatology, Cardiology, Nondestructive Testing, etc...
- High Speed Retinal Imaging
- Biometry, Topography

Typical specifications shown. Custom configurations available on request.

1. Measured as double-sided 6dB fringe contrast roll-off
2. With optional k-clock output
3. High power (>40mW) option available

NEW Small Form Factor OEM configuration with EMI shield
NEW Largest Selection of Laser Specifications Available
NEW Compact OEM configuration shown with optional data acquisition board
NEW Benchtop enclosure

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1060 & 1310 nm Swept Lasers for OCT

**Features & Available Options**

- Configured in Standard OEM 1, Small Form Factor OEM 2, or Benchtop Enclosure 3
- Emission control via hardware line or software (Windows XP or later)
- Latching hardware-based emission interlock and LED emission indicator
- Quasi-linear laser sweep trajectory: 42-55% sampled duty cycle
- Optional K-clock Output for direct A/D sampling (1 & 3 only)
- Phantom sample clock generated during laser fly-back for compatibility with Axsun’s and other common third-party data acquisition boards
- Programmable k-clock delay to manage time-of-flight difference between k-clock and main OCT interferometers
- Optional Balanced Photoreceivers (single or dual-channel) (1 only)
- Optional 500MS/s, 12-bit Data Acquisition Board (1 only)
- 2-Channel DAQ with 1G Ethernet, PCIe, and USB 3.0 interface
- 1-Channel DAQ with CameraLink interface (to PCIe frame grabber)
- Optional Power Monitor (1 only), Optional EMI Shield (1 & 2 only)
- Optional OCT Mach Zehnder Interferometer and reference Variable Delay Line (1 only)

**Interface Specifications**

- **Optical Output**: OEM: ≈1m 900µm-jacketed fiber, FC/APC connector  
  Benchtop: FC/APC bulkhead
- **Sweep Trigger Output**: Standard OEM: LVDS (1.0-1.4V), 100Ω termination, SATA*  
  Benchtop & SFF OEM: LVTTL (0-3.3V), unterminated, SMA
- **K-clock Output**: Standard OEM: ECL (1.6-2.4V), 100Ω termination, SMA  
  Benchtop: 0.2-0.8V, 50Ω termination, SMA
- **USB 2.0 Control & Diagnostics**: OEM: mini-B receptacle  
  Benchtop: type B receptacle
- **Power Consumption**: 12 W typical at 25°C, 12 VDC supply included
- **Mechanical Dimensions**: 1 Standard OEM: 54 x 144 x 178 mm (2.1 x 4.5 x 7")  
  2 SFF OEM: 25 x 85 x 110 mm (1.3 x 3.4 x 4.3")  
  3 Benchtop: 76 x 152 x 208 mm (3.0 x 6.0 x 8.2")
- **Environmental Requirements**: OEM: maintain heatsink @ 10-45°C, 10-90% humidity NC  
  Benchtop: 10-35°C, 10-90% humidity NC

*Benchtop signal levels available on OEM configuration with included interface board

**Typical Optical Spectrum (1060 nm)**

**Typical Oscilloscope Capture (100 kHz)**

**Contact Us with Special Requests!**